

Comparing Global questions and answers to results from detailed specific questions:

Data on Food Expenditures from the Consumer Expenditure Survey

Steven Henderson, updated with 2013 annual data, 9/18/14

How do the dollar amounts collected from global questions on spending categories compare to answers gathered by specific questions? Are they higher, lower, or similar? A study comparing 16 years of reported expenditures on food at home and food away from home from the Consumer Expenditure Survey (CE) Diary instrument and the CE Interview Survey shows that *it depends*.

Using more detailed microdata from 1998 to 2013, the aggregate dollars reported in the Diary for specific food purchases for eating at home are **always lower** than the global estimates from the Interview. The Diary-to-Interview ratio for this group of food at home items has ranged between 77 percent and 82 percent. Conversely, the expenditures reported for eating at restaurants and away from home collected in the Diary are **always higher** than the global estimates from the Interview survey. The range is greater, from 166 percent to 192 percent between 1998 and 2006, and then from 104 percent to 122 percent between 2007 and 2013. There was a change in 2007 in how the global question in the Interview Survey was asked, which caused a shift in the ratios.

Results

Table 1 shows the Diary-to-Interview ratios for food at home, with the amounts adjusted for comparability. See the Methodology section below for how the categories were adjusted. Reported itemized purchases in the Diary are consistently lower than the global estimates from the Interview.

Table 1. Ratio of itemized expenditures for food at home from the Diary compared to Interview global estimates (comparable categories only)

Year	Percent
1998	78%
1999	81%
2000	81%
2001	81%
2002	80%
2003	81%
2004	82%
2005	79%
2006	78%

2007	77%
2008	78%
2009	80%
2010	77%
2011	78%
2012	78%
2013	79%

Table 2 shows the adjusted Diary-to-Interview ratios for food away from home. Respondents in the Diary consistently reported higher spending on itemized meals away from home than the global estimates provided by respondents in the Interview Survey.

Table 2. Ratio of itemized expenditures for food away from home from the Diary compared to Interview global estimates (comparable categories only)

Year	Percent
1998	166%
1999	172%
2000	169%
2001	185%
2002	189%
2003	178%
2004	185%
2005	192%
2006	189%
2007	104%
2008	121%
2009	122%
2010	117%
2011	121%
2012	116%
2013	117%

Methodology and Data Used

Published total annual food expenditures primarily come from the Diary, but a few expenditures in the integrated total come from the Interview Survey. For this comparison, the only food at home expenditure that comes from the Interview—food for home consumption purchased on trips—was subtracted from the total before calculating the ratios. For calculating the Diary-to-Interview ratios for food away from home, the amounts for integrated categories that come from the Interview—board, catered affairs, meals during out-of-town trips, school lunches, and meals as pay—were subtracted from the total.

Analysis

Why are reported expenditures for itemized food at home from the Diary always lower than global Interview responses? There are two suggested causes.

1. There is a difference in how consumers estimate their usual weekly amount compared to their actual itemized expenses, and the weekly estimated amount is not cognitively the same. In addition to asking respondents to record each food purchase, Diary respondents are asked the same global questions about food purchases as the respondents in the Interview Survey. Research that used 2011 Diary data showed that the weekly itemized total was higher than the global estimate from that same household one-third of the time. That is, respondents spent more this week than their estimate of a usual week. The weekly itemized total was lower than the global estimate from that same household in approximately two-thirds of the cases. Investigating these cases further, over 10 percent of all the 2011 Diary households reported that they bought no groceries in that time period. At the same time, those households responded to the global question that their average weekly grocery bill was \$98. These zeroes reported in the Diary lowered the published average for Diary food purchases and caused the global estimated amount to be higher than the published itemized amount.
2. The global estimate for food at home is calculated as the difference between total purchases at grocery stores minus the purchase of nonfood items, plus other purchases of food other than at grocery stores. Because the amount spent on food is the residual, the cause of the higher ratio may be that consumers consistently underestimate the nonfood amount of their usual weekly grocery shopping.

Why are itemized purchases for food away from home always higher than global estimates? What caused the change in the ratios from 2006 to 2007? There are two key findings.

1. When asked a global question about spending on food away from home, respondents always underestimated their actual costs or perhaps the number of times they eat out over an average length of time, compared to filling out a diary. Sixteen years of data show a consistent pattern: asking for specific restaurant expenditures yields a higher dollar total.
2. The longer the time period over which respondents were asked to provide an expenditure estimate to a global question, the more respondents underreported their spending on food away from home. From 1998 to 2006, Interview participants were asked to estimate how much per month they spent eating out. The Diary-to-Interview ratio ranged from 166 to 192 percent. In 2007 the global question was changed from “monthly” to “weekly.”

The new question is “What has been your or your CU's (consumer unit's) usual WEEKLY expense for meals, or snacks from restaurants, fast food places, cafeterias, carryouts or other such places?”

The pre-2007 question asked “What was the usual MONTHLY expense for these purchases?”

The shorter reference period brought the ratio closer to 100 percent. Note that in 2007 the estimates from the Interview and Diary were almost identical; the expenditure reported in

the Diary was only 4 percent higher than the expenditure reported in the Interview Survey that year. Economists in the CE Production Branch suggest there was some overlap that year in how the global question was asked; perhaps some field representatives were still asking for “monthly estimates” out of familiarity with the old survey question, while the computer system was recording the amount as weekly. As shown in Table 2, the Diary-to-Interview ratio then changed to 121 percent in 2008 and has stayed between 116 and 122 percent each year since then.